



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,462	11/07/2001	John A. Ewen	31223-81316	2085

7590

02/13/2003

David J. Alexander  
Fina Technology, Inc.  
P. O. Box 674412  
Houston, TX 77267-4412

EXAMINER

CHOI, LING SIU

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 02/13/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/045,462

Applicant(s)  
Ewen

Examiner  
Ling-Siu Choi

Art Unit  
1713



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Nov 7, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 37-78 is/are pending in the application.
- 4a) Of the above, claim(s) 67-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

Art Unit: 1713

### DETAILED ACTION

1. This Office Action is in response to the Preliminary Amendment filed March 23, 2002. Claims 1-36 were canceled and claims 37-78 have been added.
2. This application is a continuation of US Application Serial No. 09/574,339 filed May 20, 2000, now US Patent No. **6,344,577 B1**, which is a continuation of US Application Serial No. 08/812,364 filed March 5, 1997, now US Patent No. **6,117,957**, which is a continuation of US Application Serial No. 07/696,408 filed May 5, 1991, now US Patent No. **5,846,896**, which is a continuation of US Application Serial No. 07/317,089 filed February 28, 1989, now abandoned, which is a continuation of US Application Serial No. 07/034,472 filed April 3, 1987, now abandoned.

### *Election/Restriction*

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 37-66, drawn to a polymer product, classified in class 526, subclass 348.
  - II. Claims 67-78, drawn to a catalyst system, classified in class 502, subclass 152.

Art Unit: 1713

4. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions relates to a polymer product and a catalyst system.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Mr. William D. Jackson on January 27, 2003, a provisional election was made with traverse to prosecute the invention of Group 1, claims 37-66. Affirmation of this election must be made by applicant in replying to this Office action. Claims 67-78 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

Art Unit: 1713

application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

**8. The following is a quotation of the second paragraph of 35 U.S.C. 112:**

**The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

9. Claims 37-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 37, line 12, the recitation " $0 \leq m \leq 4$ " causes indefiniteness because " $(C_5R'_m)$  is a substituted cyclopentadienyl group" and m cannot be 0.

***Claim Rejections - 35 USC § 103***

**10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

**(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was**

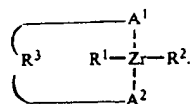
Art Unit: 1713

made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 37-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaminsky et al. (US 4,769,510) in view of Ewen (US 4,522,982).

*The present invention relates to an isotactic polymer produced in the presence of a catalyst comprising a chiral, stereorigid metallocene in the form of  $R''(C_5R'_m)_2MeQ_p$ , wherein  $R''$  is a silicon hydrocarbyl radical acting as an interannular bridge between the two  $(C_5R'_m)$  rings (summary of claim 37).*

Kaminsky et al. disclose a (co)polymer of propylene, which have a **high degree of isotacticity**, the (co)polymer being obtained in the presence of a catalyst system composed of (a) a zirconium compound which is stereo-rigid and chiral and (b) a linear or cyclic aluminoxane (abstract), wherein the stereo-rigid, chiral zirconium compound is a  $\pi$ -linked, unsymmetrical, mononuclear or polynuclear compound which contains linear or cyclic hydrocarbon chains as bridges and corresponds to the following general structural formula:



Art Unit: 1713

with  $A^1$  and  $A^2$  independently being a mononuclear or polynuclear, unsymmetrical hydrocarbon radical such as an indenyl group or a substituted cyclopentadienyl group;  **$R^3$  being a linear  $C_{1-4}$  hydrocarbon radical or a cyclic  $C_{3-6}$  hydrocarbon radical**; and  $R^1$  and  $R^2$  being halogen (col. 1, lines 63-67; col. 2, lines 1-19).

The difference between the present claims and the disclosure of Kaminsky et al. is the requirement of the specific metallocene compound to be used in the present claims.

Ewen discloses an isotactic-stereoblock polypropylene which is obtained in the presence of a catalyst comprising a metallocene in the general formula of  $(C_5 R'_m)_p R''_s (C_5 R'_m) Me Q_{3-p}$  or  $R''_s (C_5 R'_m)_2 Me Q'$ , wherein  $(C_5 R'_m)$  is a cyclopentadienyl or substituted cyclopentadienyl, each  $R'$  being hydrogen or a hydrocarbyl radical containing from 1 to 20 carbon atoms and, optionally, two adjacent carbon atoms being joined together to form a  $C_{4-6}$  ring;  $R''$  is a  $C_{1-4}$  **alkylene radical**, a dialkyl germanium or **silicone**, or an alkyl phosphine or amine radical bridging two  $(C_5 R'_m)$  rings;  $Q$  is a hydrocarbyl radical or halogen;  $Q'$  is a alkylidene radical having from 1 to about 20 carbon atoms; and  $Me$  is a group 4b, 5b, and 6b metal from the Periodic Table (col. 4, lines 46-68). A conclusion can be drawn that the use of a metallocene having silicon as a bridge is equivalent to or exchangeable with the use of a metallocene having alkylene radical as a bridge group. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a metallocene with silicone as the bridge to replace the metallocene having alkylene radical as the bridge group in the disclosure of Kaminsky et al. and thereby obtain the present invention.

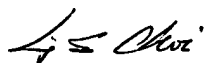
Art Unit: 1713

*Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is (703)305-0887.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on (703)308-2450.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703)308-2351.



Ling -Siu Choi

February 10, 2003